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Constraints faced by agricultural university students in internet utilization: A constraint index approach

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Abstract

The Internet has evolved into an essential instrument for higher education, allowing access to academic knowledge, research resources, and communication networks. Despite its extensive use, students frequently face a variety of obstacles that prevent them from making optimal use of online resources. The present study was conducted in 2019 among postgraduate students of Dr. Panjabrao Deshmukh Krishi Vidyapeeth in Akola, Maharashtra. A total of 140 postgraduate students were selected at random from the Post Graduate Institute in Akola and the College of Agriculture in Nagpur. A standardized questionnaire was used to collect data, which was then evaluated using frequencies, percentages, and the Constraint Index. The findings revealed that payment restrictions for information access were viewed as the most severe constraint (Constraint Index = 84.29%), followed by inadequate laboratory computers (26.79%), slow internet speed (55.00%), difficulty finding relevant information (51.07%), and lack of knowledge about searching for relevant information (58.57%). The study emphasizes the necessity of strengthening internet usage among agricultural university students through capacity-building initiatives, better access to digital resources, and improved internet infrastructure.

Keywords: Agriculture students, constraints, ICT, index, internet, utilization

Introduction

The Internet has become an integral component of higher education, providing students with unprecedented access to information, communication networks, research databases and digital learning resources. The rapid growth of digital technologies has transformed conventional educational practices and created opportunities for flexible, learner-centered and technology-supported education. Students increasingly rely on internet-based resources for academic learning, assignment preparation, research activities and professional development. Consequently, effective internet utilization has emerged as a critical determinant of academic success in higher educational institutions (Rodriguez *et al.* 2022) ^[3].

In agricultural colleges, where access to current scientific data, technology advancements, market intelligence, and extension resources is crucial, the digital revolution of education has been especially vital. In order to assist their academic and research endeavors, agricultural students need constant access to internet information sources. Internet-based learning environments improve students' abilities and professional readiness by facilitating knowledge sharing, collaborative learning, and access to international information resources (Xu *et al.* 2023) ^[5].

Even though digital technologies are becoming more widely available, students frequently encounter a number of obstacles that prevent them from making efficient use of

online resources. Inadequate digital literacy, financial obstacles, information-related challenges, and infrastructure limits can all contribute to these limitations. Students' capacity to fully benefit from online educational possibilities is still hampered by a number of factors, including poor internet connectivity, sluggish network speeds, limited access to paid scholarly materials, a lack of technological skills, and challenges finding pertinent information (Ben Youssef *et al.* 2022) ^[1].

According to recent studies, even if students have internet-enabled devices, there are still significant issues with the quality of their online access and their capacity to efficiently search, assess, and use information. Finding reliable and pertinent academic literature might be difficult due to the growing amount of information available online. Additionally, students' access to high-quality educational resources is restricted by the subscription fees for scientific journals and databases, especially in underdeveloped nations where institutional access may be restricted (Getenet *et al.* 2024) ^[2].

Disparities in digital skills and efficient use of existing resources are now included in digital inequality, which is no longer just about physical access to technology. Students who face difficulties accessing the internet and retrieving information may be less engaged in their studies, learn less effectively, and have less opportunity to develop their skills. Therefore, in order to create successful interventions targeted

at improving digital learning environments and promoting educational results, it is crucial to identify and analyze the limitations that students confront when using the internet (Sanchez-Fernandez and Borda-Mas. 2023) ^[4]. While a number of studies have looked at how university students use the internet, less focus has been placed on the particular limitations faced by Indian agricultural university students. In order to establish strategies to expand access to information resources, boost digital infrastructure, and improve students' digital capabilities, educational planners, university administrators, and politicians must have a thorough understanding of these limitations. Thus, the current study was conducted to determine and examine the limitations that agricultural university students have when using the internet.

Objective

To identify and evaluate the limitations that agricultural university students have when using the internet.

Materials and Methods

The current study was carried out at the College of Agriculture, Nagpur, Maharashtra, and the Post Graduate Institute, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola. The inquiry used an ex-post facto research design. Random sampling was used to choose 140 postgraduate students.

A pre-tested, organized interview schedule was used to gather primary data. On a three-point continuum with scores of 2, 1, and 0 for Always, Sometimes, and Never, the respondents were asked to rate the degree of each restriction.

The following formula was used to get the Constraint Index (CI)

CI is equal to (Obtained Score/Maximum Possible Score) ×

100.

Where,

The final score is equal to (Always × 2) + (Sometimes × 1) + (Never × 0).

The Constraint Index values were used to rank the constraints.

Results and Discussion

With a Constraint Index of 84.29 percent, the payment limitation for information access was placed first and was considered the most severe constraint, according to the data shown in Table 1. This might be because accessing premium journals, databases, and scholarly publications requires paying membership costs.

With a Constraint Index of 58.57%, ignorance of how to look for pertinent information came in second. Despite having access to the internet, many students had trouble finding relevant and trustworthy academic content.

Third place went to slow internet speed, with a Constraint Index of 55.00%. The results show that network congestion and insufficient bandwidth negatively impacted students' capacity to effectively access online materials.

With a Constraint Index of 51.07%, discovering pertinent information was rated fourth. Finding reliable and helpful information sources can be difficult due to the abundance of information available on the Internet.

With a limitation Index of 26.79 percent, inadequate computers in the lab were placed fifth and were thought to be the least severe limitation. This result implies that students' reliance on school computer labs may have decreased due to the availability of personal digital devices like laptops and smartphones.

Table 1: Constraint Index of constraints faced by students in internet utilization

Constraint	Always	Sometimes	Never	Obtained score	Constraint Index	Rank
Payment restriction for information	98	40	2	236	84.29	I
Lack of knowledge about searching	38	88	14	164	58.57	II
Slow internet speed	17	120	3	154	55.00	III
Difficulty in finding relevant information	25	93	22	143	51.07	IV
Inadequate computers in laboratory	35	5	100	75	26.79	V

Conclusion

The study revealed that, using online resources presents a number of challenges for agricultural university students. The biggest obstacle was found to be payment restrictions for information, which were followed by sluggish internet speed, difficulty finding pertinent information, and ignorance of efficient information searching techniques. Insufficient computers in the lab were seen to be a comparatively less serious limitation. According to the findings, institutions should improve internet infrastructure, give students access to digital databases, and offer training courses on digital literacy and information seeking to improve students efficient use of the internet.

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